

Claims

- [c1] 1. A border lighting strip comprising:
an electrical cable including a plurality of electrical conductors;
a plurality of light emitting devices (LEDs) arranged alongside the electrical cable and electrically connected thereto; and
a sheath at least partially made from a light transmissive material, said sheath having a hollow region adapted to receive the LEDs, and an integrally formed cylindrical lens arranged to optically cooperate with the LEDs.
- [c2] 2. The border lighting strip as set forth in claim 1, wherein the sheath includes: an extruded length of light transmissive material of high refractive index.
- [c3] 3. The border lighting strip as set forth in claim 1, wherein the sheath includes: an extruded length of a wave guiding material.
- [c4] 4. The border lighting strip as set forth in claim 1, wherein the plurality of LEDs are arranged such that they face the same direction.
- [c5] 5. The border lighting strip as set forth in claim 4, wherein the cylindrical lens is arranged parallel to the cable such that the plurality of LEDs face the cylindrical lens.
- [c6] 6. The border lighting strip as set forth in claim 1, wherein each LED has associated therewith a lead frame which provides for electrical connection of the LED to the cable.
- [c7] 7. The border lighting strip as set forth in claim 1, further including:
a plurality of LED sockets that receive the LEDs and effectuate connection of the LEDs to the cable.
8. The border lighting strip as set forth in claim 1, further including:
a plurality of crimps corresponding to the plurality of LEDs which electrically and mechanically connect the LEDs to the electrical cable.
- [c8] 9. The border lighting strip as set forth in claim 1, wherein the light emitting devices (LEDs) include light emitting diodes.

[c9] 10. The border lighting strip as set forth in claim 9, wherein the light emitting diodes are selected from a group consisting of:
phosphide-based red light emitting diodes,
blue or blue/green nitride-based light emitting diodes, and
phosphor-coated UV light emitting diodes emitting white or other colored light.

[c10] 11. A linear lamp comprising:
an essentially hollow tube of translucent or transparent material;
a plurality of light emitting elements arranged within the tube; and
at least one electrical wire arranged within the tube for supplying electrical power to the light emitting elements.

[c11] 12. The linear lamp as set forth in claim 11, wherein the tube includes:
a wave guide portion that distributes light generated by the light emitting elements along the tube.

[c12] 13. The linear lamp as set forth in claim 11, wherein the tube includes:
a refracting portion that spreads light generated by the light emitting elements in a plane perpendicular to the tube.

[c13] 14. The linear lamp as set forth in claim 11, further including:
a plurality of conductors that electrically and mechanically connect the light emitting elements to the at least one electrical wire.

[c14] 15. The linear lamp as set forth in claim 11, wherein:
the tube of translucent or transparent material is flexible whereby the linear lamp is flexible and arrangeable in a non-straight orientation.

[c15] 16. A lighting strip comprising:
a cord including a plurality of parallel conductive wires and an insulating coating;
a plurality of light emitting elements affixed to the cord and arranged to receive electrical power therefrom; and
an at least partially light transmissive tube surrounding the plurality of light emitting elements and at least a portion of the cord.

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- [c16] 17. The lighting strip as set forth in claim 16, wherein the tube further includes:
an integral optical element that distributes light emitted by the plurality of light emitting elements along the lighting strip.
- [c17] 18. The lighting strip as set forth in claim 16, wherein the tube further includes:
a lens integrally formed with the tube that optically communicates with the plurality of light emitting elements.
- [c18] 19. The lighting strip as set forth in claim 16, wherein the light emitting elements include light emitting diodes.
- [c19] 20. The lighting strip as set forth in claim 16, further including:
at least one mount that attaches the light emitting elements to the cord.
- [c20] 21. The lighting strip as set forth in claim 16, wherein the tube is formed by an extrusion molding.
- [c21] 22. The lighting strip as set forth in claim 16, wherein the tube includes a color tinting.
- [c22] 23. A method for manufacturing a lighting strip, the method comprising:
electrically connecting a plurality of light emitting devices to an electrical cable to form a linear light source;
extruding a transparent or translucent sheath adapted to receive the linear light source; and
inserting the linear light source into the extruded sheath.
- [c23] 24. The method as set forth in claim 23, wherein the extruding includes:
extruding a cylindrical lens integrally with the extruding of the sheath.
- [c24] 25. The method as set forth in claim 23, wherein electrically connecting includes:
attaching a mount to the electrical cable, which attaching includes an electrical connection between the mount and the cable; and
physically and electrically bonding one of the light emitting devices to the

mount.

[c25]

26. The method as set forth in claim 23, wherein electrically connecting includes:

crimping electrical leads of one of the light emitting devices to the electrical cable to establish an electrical connection therebetween; and repeating the crimping for each of the plurality of light emitting devices.

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